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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,081	10/31/2005	Nicolas Berthou	4590-388	3105
33308	7590	11/23/2007	EXAMINER	
LOWE HAUPTMAN & BERNER, LLP			MCNALLY, KERRI L	
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ALEXANDRIA, VA 22314			2612	
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

(1)

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/531,081	BERTHOU ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Kerri L. McNally	2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 06 November 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 and 7-15 is/are rejected.
- 7) Claim(s) 6 and 16-19 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 08 April 2005 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Response to Arguments***

1. Applicant's arguments filed 11/06/2007 have been fully considered but they are not persuasive. Because Applicant's arguments are not persuasive, Examiner has repeated the original rejections of the first office action below.
2. Regarding Applicant's first argument that ***Langer fails to disclose or suggest all of the claimed features of claim 1, such as, standby display equipment and automatic pilot control equipment***, Examiner respectfully disagrees. Examiner does agree that Langer fails to disclose all the claimed features of claim 1, and thus that is why Examiner originally rejected claim 1 with a 103 rejection with Langer, Briffe, and Factor. A 103 rejection does not require the primary reference to teach all of the claimed features. Furthermore, Examiner argues that in the original rejection, Briffe teaches that the "**instrument panel also includes standby instruments**, such as an altimeter, airspeed indicator, attitude indicator, and ILS glide slope/localizer indicator" (Column 4, lines 7-14). Finally, Examiner argues that Langer does indeed teach automatic pilot control equipment (Column 6, lines 5-8), as discussed in the original rejection of claim 1.
3. Regarding Applicant's argument that ***Langer aims at providing a cockpit display which eliminates the trouble for a pilot to view scattered multiple displays***, Examiner respectfully disagrees. As discussed in the first office action regarding claim 1, Langer discloses that more than one MFD with a display and one or

more controls may be used side by side (Column 4, lines 44-50, Column 13, lines 52-67, Column 14, lines 1-5, and Fig. 3). Thus, Langer discloses using multiple displays and therefore is relevant to the instant invention.

4. Regarding Applicant's argument that ***nowhere does Langer disclose automatic pilot control equipment which comprises a display screen capable of displaying the integrated standby data***, Examiner notes that Langer does indeed disclose automatic pilot controls equipment, as discussed above. Langer does not mention displaying standby data; however, Examiner has addressed this in the original rejection of claim 1 with Briffe. Briffe teaches a primary flight display is separate from a heads up display that contains standby instruments intended for backup to the primary flight display (Abstract; Column 4, lines 7-14, and Fig. 1). Thus, Examiner considers that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have a separate automatic pilot control equipment with a separate display screen to display standby data in an emergency, such as the primary display malfunctioning.

5. Regarding Applicant's argument that ***none of the MFD's function as automatic pilot control equipment***, Examiner respectfully disagrees. Langer clearly discloses a MFD with controls (Abstract), such controls being autopilot controls (Column 6, lines 5-10).

6. Regarding Applicant's argument that ***the features of MFD 200/300 are not similar to the automatic pilot control equipment as claimed by claim 1***, Examiner argues that Applicant has not specifically pointed out, other than the above argument,

how the claimed invention differs from the disclosure of Langer, and thus Examiner cannot address this argument because it is not fully substantiated.

7. Examiner will now address Applicant's argument that ***Briffe fails to disclose or suggest automatic pilot control equipment and standby display equipment each having two operating modes, one of the modes being an integrated standby data display mode and the other being a mode of displaying the automatic pilot set points given by the pilot, wherein each operate in a different mode in normal operating conditions.*** As Examiner explained in the previous office action, Langer teaches automatic pilot control equipment (Column 6, lines 5-8) and Briffe teaches standby controls (Column 4, lines 7-14). Furthermore, both Langer and Briffe teach utilizing multiple displays as discussed above. In addition, Factor teaches two screens are configurable to display separate data and toggle can be used to reverse the two displays with each other (Column 5, lines 40-53). Thus, Examiner combined these three references, and not just Briffe, to teach the instant invention.

8. Examiner will now address Applicant's argument regarding Examiner's motivation for utilizing standby equipment and how this is ***deficient of supporting evidence and deviates from the claimed invention.*** First, Examiner maintains that one of ordinary skill in the art at the time the invention was made would assuredly understand the purpose and benefit of having additional standby instruments available for a pilot in an emergency situation. Examiner further argues that most systems have a failure risk and having a backup is an obvious design solution. As to deviating from the claimed invention, Examiner respectfully disagrees. Examiner has made a rejection

with Langer, Briffe, and Factor, wherein Factor teaches two displays that can reverse to replace two instruments with each other, and therefore, that does not limit one display to being restricted to being standby, as Applicant has argued. Therefore, Examiner's original rejection is very pertinent to the instant invention and does disclose all the features of claim 1.

9. Examiner will now address Applicant's argument that ***Factor fails to disclose or suggest standby display equipment and automatic pilot control equipment each comprises a display screen capable of displaying the integrated standby data as well as the two operating modes of each standby display equipment and automatic pilot control equipment.*** Examiner has noted above, that Langer teaches automatic pilot controls, Briffe teaches standby instruments, and that Factor teaches two displays that can reverse to replace two instruments with each other. Therefore, Examiner considers that this obvious combination meets the limitations of the claimed invention. Furthermore, with respect to Applicant's claim that "Factor is merely a main display system", Examiner argues that Factor teaches multiple displays wherein controls and display are able to be swapped between the two (Column 5, lines 40-55).

10. Finally, addressing Applicant's argument that ***Factor fails to disclose or suggest a standby display equipment and an automatic pilot control equipment each comprises a display screen capable of displaying the integrated standby data, as well as the two operating modes of each standby display equipment and automatic pilot control equipment,*** Applicant has already discussed above reasons for the combination of Langer, Briffe, and Factor. Examiner admits that Factor alone

does not teach the instant invention, but the obvious combination of Langer, Briffe, and Factor do. See above discussion and rejections below for explanation.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. **Claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,867,711 (Langner et al.) in view of US Patent No. 6,057,786 (Briffe et al.) and US Patent No. 6,281,810 (Factor).

Regarding claims 1, 4, 5, 7, 8, 11, 12, 13, 14 and 15, Langner discloses a cockpit instrument system wherein a **multifunction display (MFD)** is a customizable **flight**

**data display integrated with controls** to control display formats, communication devices, navigational devices, and equipment sensors (Column 3, lines 35-41). The display may include data for airspeed, altitude, attitude, **horizon**, and heading (Column 7, lines 19-23 and Column 8, lines 5-13). The controls may include **autopilot controls** (Column 6, lines 5-8). Additionally, **more than one MFD with a display and one or more controls may be used side by side** (Column 4, lines 44-50, Column 13, lines 52-67, Column 14, lines 1-5, and Fig. 3).

Langner does not expressly disclose:

- a main display system for horizon and piloting parameters separate from the automatic pilot control equipment and standby display equipment
- automatic pilot control equipment and standby display equipment each have two operating modes, one of the modes being an integrated standby data display mode and the other being a mode of displaying the automatic pilot set points given by the pilot, wherein each operate in a different mode in normal operating conditions

Briffe discloses an apparatus for aircraft display wherein a **primary flight display** is separate from a heads up display that contains standby instruments intended for back-up to the primary flight display (Abstract, Column 4, lines 7-14, and Fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a backup system to a primary system when problems occur, wherein flight data is displayed and the pilot can control the aircraft.

Factor discloses redundant system for critical flight instruments wherein **two screens are configurable to display separate data** (Abstract) and wherein a toggle or control logic in the computer **can be used to reverse the two displays or even to replace two instruments with each other** (Column 5, lines 40-53). It would have been obvious to one of ordinary skill in the art at the time the invention was made to switch between displays or controls in the event of a failure of one of them.

Regarding claim 2, Factor discloses redundant system for critical flight instruments wherein **two screens are configurable to display separate data** (Abstract) and wherein control logic in the computer **can be used to reverse the two displays or even to replace two instruments with each other** (Column 5, lines 40-53). Examiner considers that the controls for the current display or instrument would be the only active controls and if the instruments were reversed, the controlling ability would be transferred to the other screen. It would have been obvious to one of ordinary skill in the art at the time the invention was made to activate only the current controls on the screen and to deactivate them if the control screen is reversed to the other display so that only one person has control at one time.

Regarding claims 3 and 10, Langner further discloses that the MFD's are employed **in connection with** a primary flight display (PFD) or a navigation display (NAV).

Examiner considers that "in connection with" means that the MFD can transmit control

set points to the PFD or NAV. Examiner further considers “processing these signals without displaying the set points” is an obvious design choice, and that since MFD’s are customizable, that the second MFD can be set to not display the set point adjustments.

Regarding claim 9, Factor discloses redundant system for critical flight instruments wherein two screens are configurable to display separate data (Abstract) and wherein a toggle or control logic in the computer can be used to reverse the two displays or even to replace two instruments with each other (Column 5, lines 40-53). Examiner considers that such a toggle would cause an inversion signal to be sent to the other display to notify and switch the systems.

Langner, Briffe, and Factor are analogous art because they are from the same field of endeavor as aircraft instrumentation systems.

#### ***Allowable Subject Matter***

14. Claims 6, 16, 17, 18, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

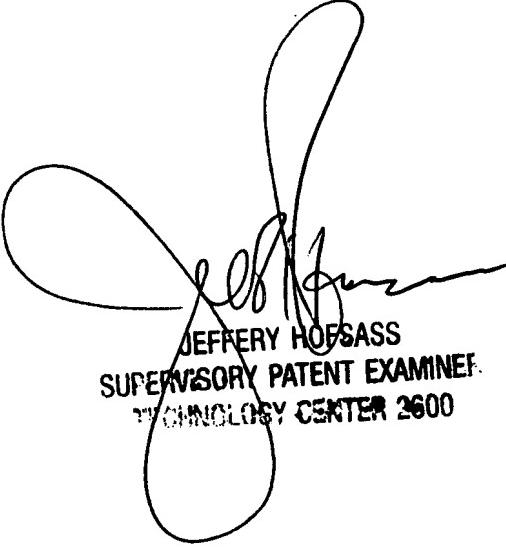
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kerri L. McNally whose telephone number is 571-270-1840. The examiner can normally be reached on Monday - Friday 7:30 AM - 5:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Hofsass can be reached on 571-272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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